

Curriculum Unit Title: Savvy Energy Consumers: Evaluating Our Energy Costs and Determining Alternative Resources

Author: Elizabeth Snyder

KEY LEARNING, ENDURING UNDERSTANDING, ETC.

This curriculum unit allows students to apply mathematical reasoning to determine the costs and proportion of their school’s energy bill to operating costs of a school. Students will then build models and simulations to discover how energy costs can fluctuate based on turbine sizes and speeds. Finally students will research and defend alternative sources to their school’s energy supply and defend their theories through persuasive presentations.

SCIENCE ESSENTIAL QUESTION(S) for the UNIT

How can we determine a method to decrease the energy costs of our school?

MATH ESSENTIAL QUESTION(S) for the UNIT

How does mathematical reasoning help factor the energy cost of our school?

<p>CONCEPT: Energy Use Of Our School                  SCIENCE ESSENTIAL QUESTION: How is energy supplied and transmitted to our school?                  MATH ESSENTIAL QUESTION: How do you find the ratio of a cost to total expenditures?                   VOCABULARY                  Energy, Power, Fossil fuels, Transmission, Ratio, Proportion,</p>	<p>CONCEPT: Variables of Energy                  SCIENCE ESSENTIAL QUESTION: What variables impact the amount of energy produced in a turbine?                  MATH ESSENTIAL QUESTION: How do you factor the speed of a turbine?                   VOCABULARY                  Variable, Turbine, Generator, Speed, Circumference, Diameter, Radius</p>	<p>CONCEPT Alternative Energies                  SCIENCE ESSENTIAL QUESTION: What benefits and disadvantages are there to the use of alternative energies?                  MATH ESSENTIAL QUESTION: What is the difference in cost between our current energy source and your selected alternative energy source?                   VOCABULARY                  Alternative, Nuclear, Solar, Hydropower, Cost, Revenue</p>
--	---	---